

Cloud Service Publication and Discovery Using Ontology.

V.K.Reshma, B, Saravana Balaji

Abstract -The emergences of cloud computing deals in various internet applications developers for hosting various applications which users are in need in this day to day life. This offers different features which is related to the resources which has been provisioned as a services over this enhancing field called Internet, which gives lots of benefits using the development of cloud services. In this paper we propose ontological model for service publication, discovery, and selection using Software as a Service (SaaS).In order to solve this with evident results we can consider a job site, (i.e.) It's not an ordinary jobsite but focusing and specializing in matching the users or clients queries related to jobs and displaying the information even by giving options of updating their information which is needed for this Job Domain. This paper implements the cloud ontology technique to make cloud service discovery system efficient for user query in job site. This concept has been upcoming as a demand in all the careers.

Key words - Attribute Publication, SaaS, Ontology, and Service Selection & Discovery.



INTRODUCTION

Cloud Computing deals with the marketing teams of techniques that provide software, computation, data storage services, but they do not need the end user knowledge and physical, configuration of the system that delivers the services. This concept can be drawn with the electricity grid, but the end users consume power and the infrastructure requires providing the service. Cloud computing describes delivery model of IT services which is based on internet protocols; it may be dynamically scalable and often with virtualized resources. [1],[2].Cloud providers publish, Cloud services over the Internet, and the customers or users normally access these services which has been provides by the cloud application layer through web portals.[3]. The "Cloud Computing Confusion Leads to Opportunity," defines cloud computing as a style where massively scalable IT-related capabilities are provided as a service to multiple external customers.

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That supports software-as-a-service and application service providers. The factors making such a model viable today are commoditization and standardization of technologies, virtualization and service-oriented architects, and the growth of the Internet. [7]SaaS, also known as Software as a service here the software provider offers an application in the form of license for the consumers to utilize on the demand service.[4].The application here in which the software providers offers is Job Carrers,which has been indulged with the cloud ontological techniques, clustering. Our new Technological concepts focuses on the publication of service, discovery and selection on dynamic attributes which express the current cloud services and resources called as the Easy use of Service.[5].It is a model in which the application is hosted as a service to the customers or users via Internet. When this software is hosted off the site, the customer doesn't wants to maintain it or support it. On the other hand it is out of customers hand in when hosting service decides to change it. The provider does all the patching, upgrades and keeps the system running. Cloud Ontology provides a shared understanding of a domain of interest to support communication among human and computer agents[8] Cloud Ontology focuses on the application that developed by the cloud software environments and it composed as a service from other cloud services using the ontological Techniques.[6]. Ontology contains a set of concepts and relationship between and can be applied into information retrieval to deal with user queries [9].

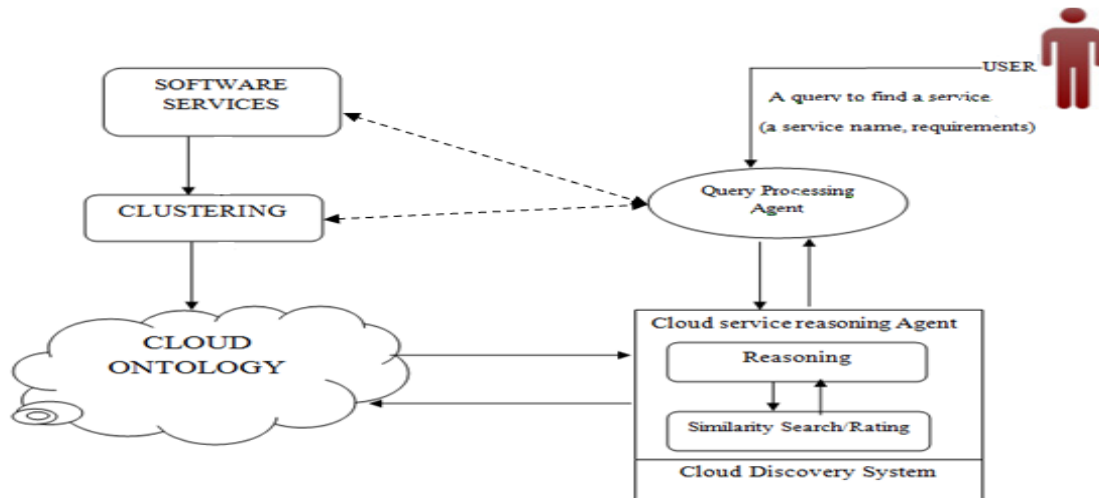


Fig. 1 System Architecture

2. SYSTEM ARCHITECTURE

The architecture shows the detailed representation of how the process occurs, and the flow of methods.

A. Cloud Service Reasoning Agent

The cloud service reasoning Agent depends on mainly two concepts

1. Similarity Search
2. Rating.

The cloud service agent helps to perform those functions.

Reasoning

The cloud service reasoning agent (CSRA) deals with the cloud ontology for performing service reasoning. The information which provided to the user is used to analyze and determine the similarity.

Similarity Search

Similarity reasoning is to calculate similarity between two services.[6] One of the reasoning method which can be considered for this paper is Similarity Reasoning. This helps the easy selection and search of materials which the queries asked by the customers.

Rating

The rating acts as a service utilization that helps to determine and rate the highest service utility which has been taken place while this process occurs. This service helps of the CSRA (Cloud Service Reasoning Agent). This leads to the process the rating of information [6], which has been clustered and according to the users' queries and finally it has been published with the rating results. The customers or users can justify according to the rating results and they can choose the needed information which they got as the reply for their queries which is highly rated or according to the users needed interest and expectation. The rating will be accurate. This helps in the success rate of the rating concept in the cloud. The Cloud Ontology, users are more successful in the discovery of cloud services. The Cloud Ontology Concepts and Rating leads to the success and it can be a demand for this application.

B. Query Processing Agent

The Query Processing Agent (QPA) shows the sources, information for publication by searching through the Resources, Services, and Providers.

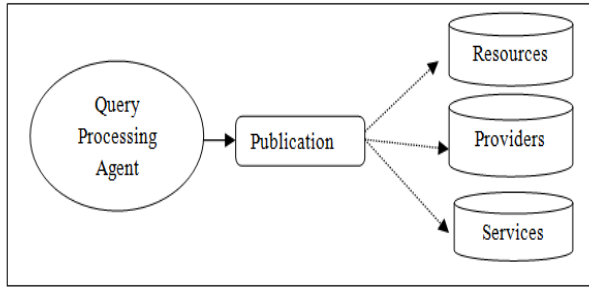


Fig. 2 Query Processing Agent

The information kept in the query processing Agent is useful for the users or customers, (i.e.) Customers are able to identify the required services, Resources, and Providers by querying in the query processing Agent. The queries related regarding the Job Careers are easily accessed and proper and needed information can be carried out with respect to each other. The customers only need to communicate with the query processing Agent and make use of the require services and resources. The Customers can only get the list of services from the Discovery Services and then analyze which satisfies the customer requirements.

The customers submit the queries, matching attributes from services has been filtered. Even there is an option allocated for the customers to directly specify the attributes which has been needed for Reasoning or Similarity Search.

C. Cloud Ontology

In Cloud computing uniform views has been provided by virtual zing various In Cloud computing uniform views has been provided by virtual zing various resources [10, 11, 12]. Cloud services are defined using Cloud computing ontology, and it shows the inter dependency and compos ability between the different services in the clouds.[13]. This paper defines the methods, concepts of applying ontology to cloud computing is not tangible. There is research that produces a global ontology by merging each ontology existed in resource groups [14]. Currently, this research is at an early stage and is hard to provide interoperability among organizations because of merging resources from only static concepts in existed researches.

In This Paper we provide the ability of re-scheduling requests based on their priorities and considering advanced reservations. The cloud application layer is the most visible layer to the end-users of the cloud. Normally, the users access the services provided by this layer through web-portals, and are sometimes required to pay fees to use them. This model has recently proven to be attractive to many users, as it alleviates the burden of software maintenance and the ongoing operation and support costs. Furthermore, it exports the computational work from the users 'terminal to data centers where the cloud applications. Our proposed ontology illustrates that cloud applications can be developed on the cloud software environments or infrastructure components..For example, a payroll application might use another accounting SaaS to calculate the tax deductibles for each employee in its system without having to implement this service within the payroll software. Similarly we are considering the Job Monitoring Applications which deals with supporting the needed information's for job careers, and support the users with easy access of jobs. This has been developed in the cloud stack layer, the flexibility of the application is limited and this may restrict the developers' ability to optimize their applications performance.

The domain specific ontology's are created from concepts and terminologies that are likely to be used by Web services in a particular domain. In this concepts after the information has been retrieved it should be registered and it should be published hence we focuses (i.e.) the Registries Ontology is important for semantic publishing and discovery. Making this ontology highly available is critical to the performance of the infrastructure. The cloud ontology maintains the information's needed for the job careers and helps the users with easy access of this application.

D. ONTOLOGICAL SIMILARITY

- Modeling of concepts in a generative ontology based on different conceptualization and dictionaries.

- We aim at reasoning by means of a “nearness” principle, where increased nearness entails increased degree of similarity.
- We can consider the similarity by considering as Properties Commonality, Difference, Identity, and Generalization.
- It checks out in depth and multiple paths also considered for finding the similarity.

3. EVALUATION OF SYSTEM

In the SaaS service, the interface for the client is developed is based on Web technique, and it adopts .NET, XHTML, Java Scripts. Jena API is used to implement semantic analysis and relevant item confirmation processing, because the information is stored as OWL (Web Ontology Language) type ontology files. Protégé is a free, open-source platform to construct domain models and knowledge-based applications with ontology's. Ontology's range from taxonomies, classifications, database schemas to fully axiomatized theories. Ontology's are now central to many applications such as scientific knowledge portals, information management and integration systems, and web services. The ontological language is of many here we can considered the Owl Language.OWL type ontology files are stored in ontology base. Fig.3 shows an model of an onto graph which has been generated using protégé.

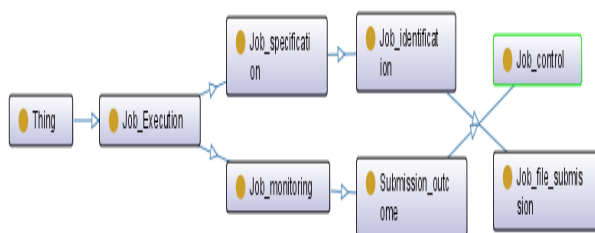


Fig.3. Onto Graph using Protégé.

4. CONCLUSION

Cloud Computing is a process of computing which has been carried out in the large scale distributed system that carries into the resources of internet. It supports application that is accessible through the internet. The aim of Cloud Computing supports, computational power and storage

capacity, and to solve problems related to computing. In this paper we are proposing an idea of using cloud ontology for easy Selection, Publication and Discovery in cloud services. Query Processing Agent, Ontological Similarity, and these all leads to the Ease of use of these services with the ontological concepts. The protégé helps to maintain the classes and relationships in these concepts which have been implemented. This idea of concept has been generated by considering the Job site by monitoring, and by giving the needed access of categories, using the ontological concepts and it has been done by Automatic selection, then Publication and Discovery (Ease of Services). This application created using these techniques helps the users for accessing it in Ease of Use. This paper implements the cloud ontology technique to make cloud service discovery system efficient for user query in job site. This concept has been upcoming as a demand in all the careers. The queries asked by client have been solved with, and the information has been retrieved back to the clients without any delay.

5. REFERENCES

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